



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Date: October 11, 2005

In re Application of:

DAVID J. EDLUND, ARNE LaVEN, WILLIAM A. PLEDGER and CURTISS RENN

Serial No. : 10/810,960 Group Art Unit: 1745

Filed : March 25, 2004 Examiner: Melissa J. Austin

For : OXIDANT-ENRICHED FUEL CELL SYSTEM

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Commissioner for Patents

PO Box 1450

Alexandria, Virginia 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Responsive to the June 9, 2005 final Office action and the August 30, 2005 Advisory action that were issued in connection with the above-identified patent application, Applicants submit the following request for pre-appeal review of the rejections set forth in the final Office action. In the final Office action, all pending claims were rejected under 35 U.S.C. § 103 as being obvious over the proposed combination of U.S. Patent No. 6,045,933 to Okamoto in view of U.S. Patent No. 6,627,338 to St.-Pierre. Some of the pending claims were rejected solely over the Examiner's proposed modification of Okamoto in view of St.-Pierre, while others required further modification and thereby required the combination of aspects of at least three different references. Accordingly, all of the rejections must be withdrawn when the proposed modification of Okamoto in view of St.-Pierre is withdrawn.

Applicants submit that there are clear errors in the obviousness rejections set forth in the final Office action. Focusing upon the proposed modification of Okamoto in view of St.-Pierre, upon which all of the obviousness rejections are based, Applicants submit that 1) a proper motivation for making the proposed modification of Okamoto in view of St.-Pierre has not been shown, 2) the proposed modification would not provide an operational system, and 3) the cited references teach away from the proposed modification. Applicants submit that any of the above-identified errors compels the withdrawal of the obviousness rejections set forth in the Office action. Applicants further submit that clear error is present in the rejections, and accordingly, Applicants request pre-appeal review of the rejections.

First, in applying 35 U.S.C. § 103, the references must suggest the desirability, and thus, the obviousness of making the combination. Moreover, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. As discussed in pages 16 and 17 of Applicants' August 12, 2005 request for reconsideration, the required teaching or motivation to make the proposed modification of Okamoto in view of St.-Pierre is not present.

Moreover, the rejections are predicated upon impermissible defining of the problem to be solved in view of the solution recited in Applicants' claims. Hindsight reconstruction is evidenced by defining the problem in terms of its solution. In each of the obviousness rejections set forth in the Office action of June 9, 2005, the rejections are predicated upon solving the problem of "producing an oxygen-enriched stream." Applicants submit that this approach is exactly what prior case law cautions against, and therefore this error compels withdrawal of the obviousness rejections set forth in the final

Office action. Applicants further submit that modifying the system of Okamoto to replace a blower with an oxygen-enrichment assembly of St.-Pierre is but one of many possible solutions to the problem of increasing the performance of a fuel cell and is only derived by defining a problem in terms of its solution. In essence, the Examiner has presumed the solution to the problem. This ignores the lack of any suggestion or motivation in the prior art to make the proposed combination of the prior art references and therefore is not a proper basis for an obviousness rejection under 35 U.S.C. § 103.

Applicants note that Okamoto does not provide any disclosure, teaching or suggestion of increasing the oxygen supply to a fuel cell other than by providing a blower upstream of the cathode. Instead, Okamoto continually refers only to a blower for introducing atmospheric air to the cathode. Okamoto does not provide any disclosure or suggestion to combine the oxygen enrichment system of St.-Pierre with the fuel cell system of Okamoto to yield Applicants' claimed fuel cell system. The combination of the fuel cell system of Okamoto with the oxygen-enrichment assembly of St.-Pierre, based solely on hindsight reconstruction, is therefore improper and withdrawal of the rejection is requested.

Applicants further submit that the obviousness rejections should be withdrawn because the proposed modification of Okamoto in view of St.-Pierre would produce a system that is not operational. This is discussed on pages 17 and 18 of Applicants' August 12, 2005 request for reconsideration. As discussed, the oxygen-enrichment assembly of St.-Pierre requires an elevated pressure that simply would not be provided by the blower of Okamoto. Therefore, Applicants submit that the proposed combination,

which produces a system that would not be suitably operational, is clearly erroneous in view of the legal standard for obviousness and should be withdrawn.

Finally, Applicants submit that the rejections fail to consider that the cited references teach away from the proposed modification of Okamoto in view of St.-Pierre. This is discussed on pages 18 and 19 of Applicants' August 12, 2005 request for reconsideration. Applicants submit that these teachings away from the proposed modification render the rejections clearly erroneous and thereby compel the withdrawal of the rejections. As discussed, the blower of Okamoto cannot provide the elevated pressure required for the oxygen-enrichment assembly of St.-Pierre to be sufficiently operational. Therefore, the Examiner's proposed modification further requires modifying Okamoto to provide the structural and energy supply requirements necessary to support the oxygen-enrichment assembly of St.-Pierre. Applicants submit that this further modification is contrary to the express disclosure and teaching of Okamoto, which is directed to a low-complexity, high-efficiency fuel cell system. This teaching away is further demonstrated by the non-patent reference, *Fuel Cell Systems*, which instructs that “[t]he major disadvantage of oxygen enrichment is that the additional power demand to effect the separation of oxygen from air more than offsets the reduction in plant air compression requirements ... enrichment is economically unattractive for stand-alone PAFC systems.” Okamoto is an example of a PAFC system.

In view of the above, Applicants respectfully request pre-appeal review and withdrawal of the rejections set forth in the final Office action. As discussed, Applicants submit that any of the above-discussed errors should justify withdrawal of all of the obviousness rejections set forth in the Office action. Upon withdrawal of the obviousness

rejections based on the proposed modification of Okamoto in view of St.-Pierre, Applicants submit that all non-provisional rejections will have been withdrawn, thereby compelling the withdrawal of the provisional obviousness rejections set forth in the final Office action.

Respectfully submitted,

KOLISCH HARTWELL, P.C.



David S. D'Ascenzo  
Registration No. 39,952  
PTO Customer No. 23581  
Kolisch Hartwell, P.C.  
520 S.W. Yamhill Street, Suite 200  
Portland, Oregon 97204  
Telephone: (503) 224-6655  
Facsimile: (503) 295-6679